## ABSTRACT

The present invention relates first, to the identification of a retrovirus and the novel nucleotide sequences encoding a retroviral polymerase gene (POL nucleotides) associated with the existence of primary sclerosing cholangitis (PSC), autoimmune hepatitis (AIH) Crohn's disease and ulcerative colitis. The present invention further relates to methods for using the PSC associated retroviral nucleotides for the detection of PSC, AIH, Crohn's disease and ulcerative colitis in patient samples. The present invention also relates to methods for using and targeting the PSC associated retroviral POL nucleotides in gene therapy protocols for the treatment of PSC, AIH, Crohn's disease or ulcerative disease in patients in need of such treatment. The present invention further relates to diagnostic protocols and kits for the detection of PSC, AIH, Crohn's disease and ulcerative colitis in tissue samples.